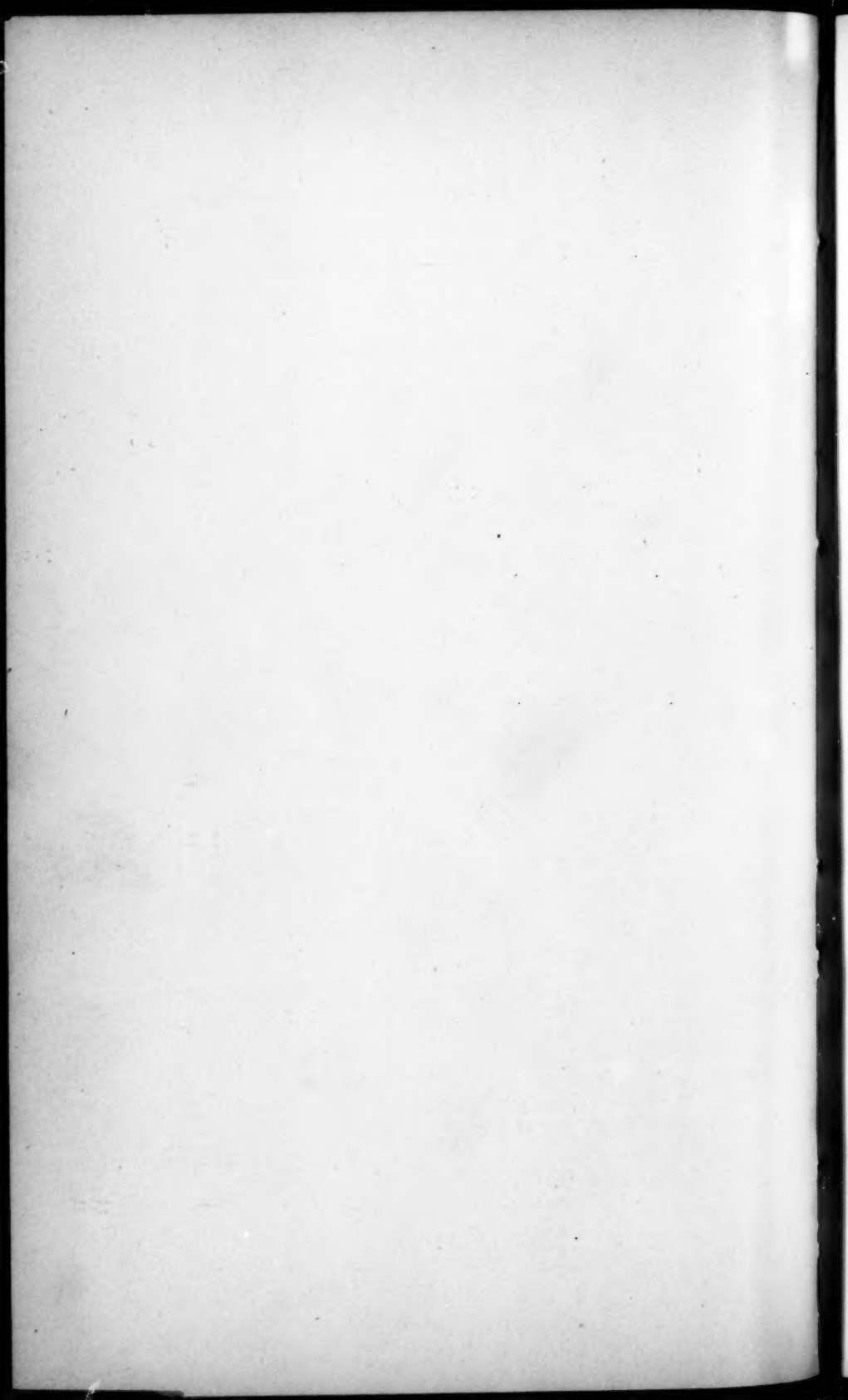


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ON THE LANGUAGE OF VITRUVIUS.

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DURING the last ten years the question of the date and the authorship of 'Vitruvius de Architectura' has been revived after a long slumber. In 1896, Professor J. L. Ussing published a treatise in Danish in which his object was to show that the writer of that work was not an architect, but an amateur who lived about the middle of the third century of our era, and who was a mere compiler, drawing chiefly from Varro. Two years later, in 1898, this treatise, much enlarged, was translated into English and carefully revised by the author, and in this form it was published in London by the Royal British Institute of Architects under the title *Observations on Vitruvius de Architectura Libri Decem, with special regard to the time at which this work was written*. To prove his point, Ussing made use of two kinds of arguments, the first being based upon the language and style, and the second upon the subject matter of the work. Both the original Danish and the translation into English have attracted the attention of classical students and architects in no small degree. Still more recently a French scholar, M. Victor Mortet, has written a series of articles entitled *Recherches Critiques sur Vitruve et son Œuvre* in the *Revue Archéologique* (1902, pp. 39-81; 1904, pp. 222-233; 382-393) in which he holds that our author wrote during the reign of the Emperor Titus. His arguments depend almost altogether upon the contents of the work, not upon its language and style, which he does not treat in any detail.

In fact, it is to the nature of the contents of Vitruvius that attention has been almost entirely directed by those who have written upon the subject of his date. Scholars who have examined the question are familiar in this connection with the names of Newton, Hirt, Schultz, Osann, Detlefsen, Diels, Oehmichen, Thiel, Degering, and others to whose writings there is no need of further reference here. To be sure, Praun in his *Bemerkungen zur Syntax des Vitruv*, Bamberg, 1885, and Eberhard in his two programmes *De Vitruvii genere dicendi*, I,

Pforzheim, 1887, and II, Durlach, 1888, have made careful and valuable studies in the language of Vitruvius, but neither of them endeavored to show anything about his date, accepting the common view that he wrote under Augustus.¹ Consequently when Ussing made use of arguments based upon language and style he was opening an almost new field, although for his collection of examples he relied chiefly upon Praun. His use of these arguments seems to have had a considerable effect upon scholars known personally to me; further, his conclusion was accepted by Lanciani (*Bullettino Comunale*, 1899, p. 24, n. 2); and it led Wölflin to the statement that the case must be considered as once more reopened for further discussion (*Archiv*, VII, 301). This dictum caused Degering in his article on Etruscan temples (*Gött. Nachrichten*, Phil.-Hist. Kl., 1897, 2, 137) to think that Ussing might possibly be in the right, although recently (*Rhein. Mus.* LVII, 1902, p. 8) he has supported the contrary view on grounds of subject matter. But neither he nor any one of the reviewers² of Ussing's treatise has published a detailed study of Ussing's linguistic and stylistic arguments with a view to determining whether they really do furnish evidence of a late date of composition. It seems worth while, therefore, to examine them closely, and this I propose to do in the following article. Ussing's contention is that the phenomena to which he draws attention 'point to the decadence of the Latin language and to its transition to the Romance tongues.' I shall inquire whether these phenomena or traces of them are found in republican Latin writers and in the Augustan and Silver ages.

But before beginning this inquiry three observations are necessary. In the first place, we must never forget that in 'Vitruvius de Architectura' we are dealing with a work which, if it was composed before the end of the Augustan age, is absolutely unique in its kind. We have no other prose work on a technical or scientific subject (unless we include agriculture among such subjects) written in Latin as early as this period, and we have no other treatise on architecture, either in Greek or

¹ Such was also the attitude of Richardson in his article in the *Harvard Studies in Classical Philology*, I, 153 ff. The dissertation of Stock, *De Vitruvii sermone*, Berlin, 1888, is of no value for our purposes. The treatises of H. Ulrich, *De Vitruvii copia verborum*, I, Frankenthal, 1883, and II, Schwabach, 1885, I know only from the review in Wölflin's *Archiv*, I, 126.

² The chief of these are to be found in *Berl. Phil. Woch.*, 1897, 773 ff. (by Krohn); *Revue de Philologie*, 21, 118 ff.; Bursian's *Jahresbericht*, 108, 1901, 118 ff. (by W. Schmidt); *Journal Royal Institute of British Architects*, 34 Ser., 1899, 149 ff. (by Brown); *Athenaeum*, 1897, p. 686.

in Latin, coming down to us from antiquity. And even in other fields than science, the amount of Latin prose of the Augustan age that has survived to us, is really quite small, so that for all these reasons a standard or norm of comparison for the prose of that age is hard to obtain. But secondly, I am not concerned in this article to distinguish too exactly between the prose of the Augustan and that of the Silver age, nor to show that 'Vitruvius de Architectura' was composed under Augustus rather than under Titus. Ussing argues that it is a work of the third century. If I can show that the linguistic and stylistic peculiarities upon which he relies are found in the writings of the republic and early empire, it will be enough for my present purpose. The decision between the time of Augustus and the time of Titus is a different matter, and whether it is to be reached by means of arguments drawn from the language or from the subject matter³ does not at this moment concern me, although it will, I hope, be treated before long in another article. Thirdly, the whole gist of the linguistic part of Ussing's argument seems to consist in his belief that if a writer lived in the 'classical period' his style must therefore be 'classic.' This is a pure assumption, and it is confuted by all actual experience. Thus, a man to-day may be an excellent architect or may excel in other technical and scientific pursuits, and he may have received a good general education, — yet he may not be able to express himself in writing with polish, or with freedom, clearness, or even always with mere correctness. Very many such men are among the writers of to-day. Why should we think that there were no such men living and writing in the classical period of Latin literature? We know that there were such men. It is enough to compare the correspondents of Cicero with Cicero himself, the authors of the *Bellum Africum* and *Bellum Hispaniense* with Caesar, to read what is known of the involved and affected style of the great patron of literature, Maecenas, and to remember that *Vergilium illa felicitas ingenti in oratione soluta reliquit* (Sen. *Contr.* 3, praef. 8, p. 243 κ). Having made these observations, we are ready to proceed to the consideration of Ussing's criticisms.

He thus begins (p. 4): 'One of the peculiarities which occur especially in the authors of the later period of the empire, where they wanted to write nicely and philosophically, is the frequent use of abstract nouns, even in the plural. So also Vitruvius.' — Nobody would be found to

³ For a few notes on this, see my article in the *Harvard Studies in Classical Philology*, 17, 9 ff.

deny that abstracts are common in late Latin, but what is omitted from Ussing's statement is for us the important fact, viz.: that the common use of abstracts began long before the later period of the empire. On this point, see Schmalz, *Lat. Gramm.*,³ p. 430: 'In der Sprache des Volkes waren die Subst. abstr. gerade nicht unbeliebt, wie ein Blick auf dem Wortschatz des Plautus zeigt; aber immerhin ist *erst mit Cicero* und zwar *infolge seiner philosophischen Studien* eine Bereicherung eingetreten.' Thus, to illustrate, I may take a single example: the abstract *repugnantia* appears first in Cicero's philosophical writings (*T. D.* 4, 23; 29; *Off.* 3, 17; 34); and it is used in the contemporary Second Philippic, 19 (see Sihler *ad loc.*). In the quotation from Schmalz I have italicized certain words because I think it worth observing that Cicero was dealing with Greek ideas and Greek sources at the time when he felt the need of enriching Latin with new abstracts. May not this in large measure account for the great number of abstracts in Vitruvius? But not altogether, for it appears that the *Scriptores Rei Rusticae*, even the earliest from Cato and Varro to Columella, exhibit a liking for abstracts⁴ which, in these truly Roman writers, cannot be attributed to exigencies due to the use of Greek sources. The fact is that as new ideas called for expression in Latin prose, the avoidance of abstract substantives in the expression of them was often really a *tour de force*, and only the best writers struggled very hard to avoid them or, when they used them, apologized for their use.⁵ And finally the frequent employment of abstracts in the correspondence of Cicero shows that they were also common in the colloquial language of the educated and used as a briefer form of expression of thought than that which the master reserved for his greater works.⁶

Ussing proceeds: 'Among abstract nouns which appear only in his writings I will mention *ignotitia* (64, 47), *indecentia* (174, 9), *pervolitantia* (232, 3), *nascentia* (232, 17), *crescentia* (238, 14; 23; 239, 3), *commensus* = *mensura* (15, 25; 31, 3; 65, 25; 103, 21; 134, 11)'—Of these, it may in the first place be remarked that Ussing's statement is not exact, for three of them do appear in other writers: *ignotitia*, Gell. 16, 13, 9; *indecentia*, Cael. Aurel. *Chron.* 3, 8 (p. 254, Vicat); *nascentia*,

⁴ See Cooper, *Word Formation in the Sermo Plebeius*, p. 2, and the lists, pp. 5-50.

⁵ Cooper, *ibid.* p. xxxiii f.

⁶ Cf. Stinner, *de eo quo Cicero in Epistolis usus est sermone*, p. 7, and such an array as that in Cooper, p. 6, where we have 24 abstracts in *-tio* occurring earliest in Cicero's letters.

⁷ For convenience, I have changed Ussing's references to the pagination of Rose.

see Rönisch, *Itala u. Vulgata*, p. 50. To be sure these are late writers, but let us, before concluding that the occurrence, say of *ignotitia*, in Vitruvius is a proof that the work which goes under his name is a late production, inquire what other abstracts there are which he could have used in the sense of 'ignorance'? There are four, *ignorantia*, *ignoratio*, *inscientia*, and *inscitia*. But all of these are new contributions to the enrichment of the language made, so far as we know, in the time of Cicero or by him. The first, as we know, did not please him and it is usually avoided (Schmalz, *Antibarbarus*,⁶ I, p. 618). Vitruvius does not use any one of the four, but has instead once *ignotitia*, a violation of the rules of composition (the only one of this sort in Vitruvius), but paralleled by *insatietas* (Plaut.), *intemperies* (Plaut., Cic.), *invaletudo* (Cic.), *inreligio* (Rhet. ad. Herenn.). Of course I am aware that the last two have been emended away, yet see Wölfflin, *Archiv*, IV, p. 403. And *ignotitia* is not surprising in a writer who has *notitia* three times (5, 12; 7, 13; 133, 27) in the sense of 'knowledge.' The second abstract, *indecentia*, would be surprising if the truth were, as one might gather from the Lexicon and from Schmalz (*ibid.* p. 660), that *indecens* first appears in the Silver age. But Vitruvius has it only three lines below (174, 12), and why is he led to employ these words? Because he is employing them technically in an anecdote illustrative of sins against propriety (*decor*) in art (173, 19), — propriety, which with him is one of the six component elements of true architecture (11, 12 ff.), and a subject to which he frequently alludes.⁸ In thinking of *decor* he forms *indecentia* as naturally as Cicero, thinking of *dolor*, forms *indolentia* (*Fin.* 2, 11). The third abstract, *nascentia*, occurs in the context *non e nascentia sed ex conceptione genethiologiae rationes explicatas*, where Vitruvius is referring to those astrologers who based horoscopes not on the moment of birth but on that of *conception*. Here the Greek technical terms were *γένεσις* or *ἐκτεξις* and *σύλληψις*; cf. Sext. Emp. p. 737, 18 Bk. : *τὴν δὲ γένεσιν τῶν ὑπὸ τὴν ἐπίσκεψιν πεποιημένων ἀρχαϊκώτερον ἦτοι ἀπὸ τῆς τοῦ σπέρματος καταβολῆς καὶ συλλήψεως λαμβάνειν ἢ ἀπὸ τῆς ἐκτέξεως*. See also Hippolytus, *Ref. Haer.* 4, 3. Another word for 'birth' in this connection was *ἀπότεξις* (Sext. Emp. p. 737, 7), and the simple *τέξις* was also used (*ibid.* p. 739, 12). Vitruvius's *conceptio* is obviously a translation of *σύλληψις* and it was thus used by Cicero (*Div.* 2, 50). For *γένεσις* or *ἀπότεξις* what should he have used? This is a question which seems not to have

⁸ Praun, *Syntax des Vitruv*, p. 43, has also urged that in the whole anecdote Vitruvius is following a Greek source.

occurred to those who would blame him for using *nascentia*. Cicero does indeed avoid the use of a single abstract and has the somewhat clumsy phrases *ortus eius qui nascatur* (*Div.* 2, 89), *ortus nascentium* (*Div.* 2, 91; see also *Div.* 2, 92; 94). For the Augustan period we have no evidence, so far as I am aware, unless it be found in Vitruvius. In Censorinus we have *genesis* (*Nat. D.* 13), in Tertullian *genitura* (*De Anima* 25 *fin.*). Pliny also employs both of these words, yet not in connection with astrology (*N. H.* 36, 19; 18, 202), and Augustine uses *genitura* like Pliny (*Civ. D.* 5, 3). Suetonius has *genitura* several times: once in the general sense of 'birth' (*Nero* 6), otherwise meaning 'horoscope' or 'nativity'; he also has *genesis* at least twice in this sense. For this Tertullian (*Idol.* 9) has *nativitatem*. Thus it appears that except in Vitruvius we know of no early abstract used for 'birth' in connection with the horoscope, and that the late writers who have occasion to speak of it do not use *nascentia*. Its occurrence in Vitruvius, therefore, cannot be taken as evidence of late authorship, but quite the reverse, for a late writer would have used *genitura* or *genesis*. There remain the three abstracts cited by Ussing which are really not found elsewhere,⁹ *pervolitantia* and *crescentia*. The first is the expression by an abstract of the idea expressed by *pervolat* (219, 10), both employed of the revolution of the *mundus* or *caelum*. Abstracts in *-antia* occur before Vitruvius's time: e. g. *flagrantia* (Plaut., Cic.), *incogitantia* (Plaut.), *errantia* (Acc.), *variantia* (Lucr.). The second, *crescentia*, is used three times, twice to denote the increasing length of the hours on a dial (238, 14; 239, 3), and once of the increasing length of days (238, 23). Both are employed technically and in their contexts are no more objectionable than Cicero's *indolentia* mentioned above. Of the third abstract, Ussing uses the expression '*commensus = mensura*.' But this seems to be a misapprehension. Vitruvius has *mensura* fourteen times, always in the simple meaning of 'measure' (see Nohl's *Index*), but *commensus* he employs ten times (*ibid.*), and never in that simple sense, but always with the idea of *comparative* or *proportionate* measurement, just as Cicero employs the verb *commetior* in *Tim.* 33: *siderum ambitus . . . inter se numero commetiuntur*; cf. *Inv.* 1, 39; *nam saepe oportet commetiri cum tempore negotium*. Thus we have in Vitruvius a new abstract employed as a technical term, and its appearance ought to be no surprise at any period in an author who has so much to say on

⁹ Of course he might have cited others: see Cooper's lists.

the subject of the importance of proportionate measurements as has Vitruvius.¹⁰

Continuing his remarks about abstracts, Ussing says: 'Striking plurals are *conscriptioes* (103, 14; 155, 10), *eruditiones* (2, 18; 36, 23), *scientiae* (10, 24; 62, 23; 233, 2), *sollertiae* (158, 12).' — Here we need only remark that *conscriptioes* occurs in Cicero, *Cluent.* 191, and *scientiae* in Cicero, *D. O.* 1, 61; *C. M.* 78, *conscientiae* in Cic., *R. A.* 67. In the last two passages in Cicero the plurals are no doubt influenced by the other plurals in the passage (*C. M.* 78: *tot artes, tot scientiae, tot inventa*; *R. A.* 67: *suae malae cogitationes conscientiaeque animi terrent*), and the same may be observed in the Vitruvian usages of this plural and of *eruditiones* and *sollertiae*¹¹; cf. the similar use of *eruditiones* in Gell. *praef.* 3. But why delay over such a point? The use of the plural of abstracts, though great in late authors, is no proof of late authorship, for it is found at all periods: 'besonders bei Plautus in verhältnissmässig grosser Zahl; in klass. Zeit erweitert sich dieselbe wesentlich durch Cicero' (Schmalz, *Lat. Gramm.*,² p. 431). Seneca (*Ep.* 114, 19) criticises the plural *famas* in Sallust and his imitator Arruntius. See also a list of the plurals used by Mela, in Zimmermann, *De Pomponii Melae sermone*, p. v ff.

Neither is a late date assured by the usage to which Ussing next draws attention: 'Sometimes these abstract nouns retain so much of their verbal character that the author finds it sufficient to add only *est* instead of *factum est*, as in *cum fuerit fundamentorum ad solidum depressio* (15, 19), and *cum erit moenium conlocandorum explicatio* (20, 24).' — See Schmalz again, p. 430, where this use is shown to be not foreign to Cicero, and cf. also Cic. *Pis.* 84 (*accessio*), *Rab.* 4 (*consensio*), *Cat.* 1, 32 (*consensio*).

Ussing's next point appears to be based upon a misunderstanding. He says: 'One of the words frequently occurring in Vitruvius is *symmetria*; according to Nohl's *Index*, it is found about a hundred times. At the time of Pliny this word is still a stranger to the Latin language; comp. *Hist. Nat.* 34, 65: *non habet Latinum nomen symmetria*. Pliny no doubt appreciated his own Latin style, but he does not carry his purifying tendencies so far as to exclude every foreign word, if it was generally adopted in the language; his apology testifies to the fact that such was

¹⁰ See also on *symmetria*, p. 474, n. 12.

¹¹ It must also be observed that *sollertiae* in 158, 12, means 'instances of skill'; cf. Cic. *Q. F.* 1, 1, 39: *iracundiae*, and 40: *avaritiae*. The whole passage is misunderstood by the translators. It means 'by compiling from antiquity remarkable instances of the skill shown by genius.'

not the case with *symmetria*. — Here, as I observed, Ussing seems not to understand Pliny's meaning. He was writing of Lysippus and of the greater grace and freedom from bulkiness which this sculptor exhibited in the bodies of his statues, 'by which they were made to seem taller.' Then he adds: *non habet Latinum nomen symmetria quam diligentissime custodit*, that is: 'there is no Latin word for that symmetry which he observed so carefully.' What Pliny says is therefore no condemnation of the use of the word *symmetria*, which indeed he himself employs in three other passages (34, 58: *in symmetria diligentior*, a comparison of Myron and Polyclitus; 35, 67: *Parrhasius primus symmetrian picturae dedit*; 35, 128: *Euphranor primus videtur usurpasse symmetrian*), but a definite statement that when a Latin writer is talking about 'symmetry,' he must use the Greek word. Now 'symmetry' is one of the very points upon which Vitruvius most insists in every department of the architect's profession. Near the opening of his work, he mentions it as one of the six components of good architecture (11, 12), and soon afterwards he devotes ten lines to a definition of what it is (12, 14). Having done this, even the earliest of Latin prose writers would be fully entitled to employ the word as often as he chose. If it is not found earlier than Vitruvius, this is simply because of the accident that there is no Latin work extant in which there was so much occasion to speak of 'symmetry' in the technical sense.¹³

Leaving the subject of abstracts, Ussing next takes up another topic in which he is equally unfortunate. 'Not infrequently,' he says, 'words are found in a different connection and different signification from that of the classical authors. Thus *notitia* in the sense of "renown" (63, 6; 133, 6), *ponere* "put forth" (64, 30), and *anteponere* "put forth at first" (33, 4 and 10); *dignum est* for *operas pretium* (46, 6); similar things are quoted from Vopiscus, Lactantius, and Augustinus; *necessitate = necessario* (246, 3).' — By the phrase 'classical authors' Ussing must, for the sake of his argument, be taken as meaning authors writing in the classical period, no matter what their reputation for style or lack of it may be. Therefore we are entitled to point to *notitia* meaning 'renown' in Nepos, *Dion*, 9: *Hi propter notitiam sunt intromissi*. In poetry it is found thus in Ovid, *Pont.* 3, 1, 50; 4, 8, 48. Ussing's example of *ponere*, in the sense of 'put forth,' disappears, since it is an emendation for *exponere*, adopted by Rose in his first edition but rightly abandoned

¹³ It may be worth observing that Vitruvius employs his new formation *commensus* in contexts along with *symmetria*, as if perhaps he felt that the Greek term needed some help from Latin: see 15, 25; 31, 3; 134, 11; 138, 23 and 27.

in his second. As for his example of *anteponere*, it should be written as two words, *ante ponere* (so Rose²; cf. Cic. *Fam.* 1, 9, 21: *ut paulo ante posui*), and the Vitruvian employment of *pono* in these two places should be compared with the common colloquial usage of it, as for example in Cic. *Fin.* 2, 31; *Legg.* 2, 6; Livy, 10, 9, 12. For the use of the impersonal *dignum est* in the sense of *operae pretium*, it would not be difficult to find examples (cf. for instance Plaut. *Ps.* 1013, and, with *indignum*, Sall. *Iug.* 79, 1), but the real peculiarity in the Vitruvian usage is that *ut* with the subjunctive follows, the whole sentence being: *quae si prope urbem essent, dignum esset ut ex his officinis omnia opera perficerentur*. This impersonal usage does not indeed seem to occur before the very late authors mentioned by Ussing (cf. Dräger, II, 258). A very similar employment of the personal *digna* is, however, found in Livy 24, 16, 19: *digna res visa ut*, etc., where of course the relative construction would be as impossible as in the Vitruvian sentence.¹³ Finally, of *necessitate* used in the sense of *necessario*, it must be admitted that this cannot be paralleled in or before classical times, and that the employment of the ablative of an abstract instead of an adverb is one of the characteristics of African Latin (Sittl, *die lokalen Verschiedenheiten der lateinischen Sprache*, p. 107). It has in fact been observed that many stylistic peculiarities that are found in the African writers occur also in Vitruvius (Praun, p. 13, n.). However, if the ablative of any abstract is allowable instead of an adverb it would surely be *necessitate*; cf. Caesar's *qua necessitate adductus*, *B. G.* 6, 12, 5; *qua necessitate permotus*, *B. C.* 3, 24, 4, with the pleonastic *necessitate coactus* of *Bell. Afr.* 55, 2 (cf. 21, 1; 24, 4), which is like *necessario coacti* in Ter. *Andr.* 632; *Bell. Hisp.* 24, 2; 32, 1. This pleonasm with *necessitas* is common in Vitruvius.

Ussing's next remark, as he himself seems to be conscious, is of no value as proof of late authorship: 'In a few instances *videtur* is meant to signify *placet*: *magnitudines balnearum videntur fieri pro copia hominum* (126, 11); *itaque minime fistulis plumbeis aqua duci videtur* (210, 13). In other places Vitruvius correctly adds *oportere*, so that the omission might perhaps rather be called a peculiarity of style in the author, as in *primo volumine putavi . . . exponere* (36, 23).' — But this use of *videtur* cannot be called a peculiarity of Vitruvius nor evidence of late authorship, for the passive of *video* in the sense of *placet* or *δοκεῖ* occurs three times in the *Bellum Africanum* (5; 25, 1, 42, 1). Of *putavi*

¹³ For the great variety of constructions with *dignus* in Vitruvius, see my article in *Harvard Studies in Classical Philology*, 17, 1 f.

exponere it might be thought that as the verb *oportere* has occurred in the foregoing sentence and as it occurs again in the following sentence, its omission with *putavi* may be excused without danger of misunderstanding. Or perhaps we have here a use analogous to that of *cogito* in the sense of 'intend' followed by the infinitive, found frequently in the letters as well as in other works of Cicero.¹⁴ However, as Ussing himself observes, the usage may be attributed to the author himself rather than to the habits of a late period of Latinity to which it has not been shown to belong.

Ussing's next observations would be very striking indeed, if they were found to bear examination; but this is not the case. 'Shall we consider it merely accidental that the word *narrare*, which was generally used during the classical period, does not occur at all in Vitruvius, who only uses *memorare*; or that the verb *ire* (without prefix) appears but once, whereas we frequently find *vadere*, which in Cicero means 'to depart,' and only in Virgil and Ovid signifies 'to go,' thence entering into the later prose and subsequently into the Romance languages, entirely superseding the genuine Latin word?'—The first of these observations is misleading. It is true that Vitruvius never uses the verb *narro* (in any form), but on the other hand he never uses the active voice of the verb *memoro*. He has the verb twelve times, always in the passive. Once it is used absolutely: *mors eius . . . varie memoratur* (158, 3). Five times it is used with a personal subject and the active infinitive: *is memoratur dixisse* (62, 17; cf. 161, 18; 280, 18; 42, 27; 43, 6). Six times it is used with a personal subject and the passive infinitive: *inventio sic memoratur esse facta* (86, 21; cf. 177, 2; 199, 19; 231, 15; 272, 22; 156, 5). Now suppose that *narratur* or *narrantur* were found in these eleven passages: we should at once be told that here was evidence of late authorship, for this is a usage which, beginning with Livy, is found in the Plinys, and is prevalent in late Latin (Schmalz, *Antibarbarus*,³ s. v. *narrare*). That it does not occur in Vitruvius, therefore, is significant of an early period, if it is significant at all. But his use of the passive of *memoro* is classical, though rare: cf. Cic. *V.* 4, 107: *ubi ea gesta esse memorantur*. It appears to be nothing more than a bigger word for *dicitur*, and Praun (p. 7) remarks: 'Vitruv hat wohl nach Art der Halbgebildeten den landläufigen Ausdruck vermieden, um durch ein selteneres Wort seiner Rede ein schöneres Kolorit zu geben.' Next let us examine the case of *vado* and *ire*. To begin with, it is not true that

¹⁴ See Stinner, p. 54 f.

'only in Virgil and Ovid' does *vado* signify 'to go.' For cf. Ennius, *A.* 281 M.; *vadunt solida vi*; *A.* 591: *ingenti vadit cursu*; *Auct. Herenn.* 2, 29; *cum feras bestias videamus alacres et erectas vadere*; Catullus 63, 31: *vaga vadit* (sc. *Attis*); 63, 86: (*leo*) *vadit fremit refringit virgulta pede vago*; Sallust, *Iug.* 94, 6: *Romani instare, fundere ac plerosque tantum modo sauciare, dein super occisorum corpora vadere*; Cic. *T. D.* 1, 97: *vadit enim in eundem carcerem atque in eundem paucis post annis scyphum Socrates*. In all these passages we find *vado* used in the sense of 'go' rather than 'depart,' but the 'going' indicated in them is something more than is meant by the every day sense of that word; for something rather more grand is intended. The English 'move' would be a better translation. Here it is interesting to compare with the Ciceronian passage Livy 2, 10, 5, where of Horatius Cocles he says: *vadit inde in primum aditum pontis*, and Weissenborn-Müller notes: 'er geht mit gewaltigem Schritte, *μακρὰ βύβας*.' See also Livy 6, 8, 2 and 7, 24, 6. Finally we have *vado* in two letters of Cicero: *Att.* 4, 10, 2: *ad eum postridie mane vadebam cum haec scripsi*; *Att.* 14, 11, 2: *Lentulus Spinther hodie apud me. Cras mane vadit*. I believe that I have now cited all the Ciceronian passages in which the simple *vado* occurs, and it seems probable that when Ussing speaks of *vado* as meaning 'to depart' in this author, he is thinking of the two occurrences in the letters. But it is obvious that in them it is only the context that authorizes the translation 'depart,' which would have applied equally well to *iturus eram* for instance, if it had stood in the former of them. And on the latter Tyrrell and Purser suggest the translation 'passes on his way,' adding: 'There is a slight poetical colour about this word; cf. Stinner, p. 16.' Having thus prepared ourselves to understand the meaning of *vado*, let us turn to Vitruvius. We are told that he uses *ire* only once but *vadere* 'frequently.' The fact is that he uses a form of the verb *vado* five times. But never was there a case in which statistics were more misleading if we conclude from them, without examining the contexts, that to Vitruvius *vado* and *eo* were synonyms, and that he uses *vado* in the every day sense of *eo*. At the outset we must remember that Vitruvius is not an historian, orator, or dramatist, and that consequently we should not expect to find the verb *eo* used often by him: he has little occasion to speak of anybody as 'going' anywhere in the usual sense. This observation alone would be sufficient to account for the absence of the simple verb *eo* from his work. Now how does he employ the verb *vado*? Five times he has the simple verb. Of these occurrences, three refer to movements of the sun or moon: 220, 13: *sol autem signi spatium quod est duodecima*

pars mundi mense vertente vadens transit; 240, 2: *itaque quemadmodum sol per siderum spatia vadens dilatat contrahitque dies et horas*; 225, 4: *cum (sc. luna) praeteriens vadat ad orientis caeli partes*. In these three passages we have no common 'going,' but the grand movement of heavenly bodies, and it is worth observing that Cicero never uses the simple verb *eo* of movements of the sun, moon, or stars in his orations or philosophical works. He has *elabor, vagor, erro*, and the compounds *accedo, antecedo, discedo, recedo, anteverto, peragro, subsequor, abeo, adeo*, and *obeo*¹⁵ (see Merguet's *Lexicons s. vv. sol, luna, stella*). The other two passages in which Vitruvius uses the simple verb *vado* are both in prefaces, in which, as is well known, our author often aims at a higher style than in the body of his work. The first is 132, 8: *at qui non doctrinarum sed felicitatis praesidiis putaret se esse vallatum, labidis itineribus vadentem non stabili sed infirma conflictari vita*. Here the picture of the foolish man who depends on luck rather than on learning, 'moving in slippery paths,' is appropriately colored by the use of *vadentem*. The second is 215, 25, where in the famous anecdote about Archimedes it is said: *exsiluit gaudio motus de solio et nudus vadens domum versus significabat clara voce invenisse quod quaereret*. Here the use of *vado* is like that which is found in Cicero's letters as cited above (p. 477). It appears, therefore, that there is nothing in Vitruvius's use of the simple verb which is at variance with classical examples. On the contrary, Ussing would have been more fortunate had he criticised the single occurrence in Vitruvius of the simple verb *eo*, 220, 11: *luna . . . caeli circumitionem percurrens ex quo signo coeperit ire ad id signum revertendo perficit lunarem mensem*; for we have seen that it is not Ciceronian to employ this simple verb of the movements of heavenly bodies. But how about the Vitruvian use of the compounds of these verbs? Here the statistics tell the opposite tale, for he has compounds of *eo* (*ad-, ex-, in-, prod-, red-, sub-, intro-*) fifty-six times and compounds of *vado* only twice, in each case with *per-* (221, 24: *Saturni (sc. stella) . . . pervadens per signi spatium*; 226, 21: *sol signa pervadens*). Both of these are descriptive of the movements of heavenly bodies, and the compound *pervado* is Ciceronian (e. g. *V. 3, 66*; *N. D. 2, 145*). To conclude: Vitruvius's use of *vado* and *-vado*, six times in the present participle and once in the form *vadat*, is shown by an examination of the contexts to be no proof of late authorship.

¹⁵ That Vitruvius also uses compounds of *eo* may be seen, for example, from two of the passages just cited.

To pass on to Ussing's next point: 'Is it accidental that, after the fashion of more recent authors, Vitruvius frequently transcribes the simple future by *erit ut*? e.g. 7, 10: *erit ut uterque liberetur*. 130, 27: *ita erit uti possit turris insuper aedificari*; 144, 9: *tunc erit ut . . . fiant*. Dräger, *Hist. Synt.* 2, p. 267, quotes a similar example from Apuleius, *Met.* 2, 3: *nunquam erit ut non apud te devertar*.' — This observation is drawn from Praun (p. 51), who cites two other cases (28, 9: *tantum erit uti . . . habeant*; 92, 16: *erit ut emendentur*), and remarks that Vitruvius has only twice used the classical (though rare) present tense *est ut*. There is however an earlier occurrence of *erit ut* than that of Apuleius; cf. *Rhet. ad Herenn.* 4, 41: *Sed non erit, tamquam in plerisque, ut, cum velimus eā (sc. exornatione) possimus uti*. We have, therefore, no evidence of 'the fashion of recent writers' in the Vitruvian passages, particularly when we consider that Apuleius is the only 'recent writer' cited in this connection, and that his use of *erit ut* is negated. So is the use in the *Rhet. ad Herenn.*, while the Vitruvian uses are all positive. But while the present tense *est ut* is usual in periphrases, we also have *fuit ut*, Cic. *Cael.* 48, and why then should we be surprised at *erit ut* (not exactly paralleled elsewhere) in a writer like Vitruvius?

Ussing proceeds: 'With regard to the comparison of adjectives, we often find the comparative unnecessarily emphasized: *maxime facilius* (3, 23), *maxime tutiores* (22, 15), *maxime utiliores* (38, 15), *quo magis ex meliore vino parabitur* (180, 22), *potius digniores* (134, 1). Compare *nimum penitus* (211, 7). Similarly Lactant. *Instit.* 1, 21, 10: *maxime dulcior*. Comodian, *Apolog.* 5: *plus levior*. Sulpicius Severus, *Chron.* 2, 46, 5: *plus iusto inflatior*.' — Here we may begin by pointing out that the example with *potius* (134, 1) is not like the others on account of the following *quam*, the context reading thus: *iudicant . . . ipsos potius digniores esse ad suam voluntatem quam ad alienam pecuniae consumere summam*. With this cf. Nepos 9, 5, 2: *potius patriae opes augeri quam regis maluit*; Cic. *D. O.* 2, 300: *cum quidem ei fuerit optabilius oblivisci posse potius quod meminisse nollet quam quod semel audisset vidissetque meminisse*. Next for the example with *magis* we have early parallels in Plautus (e. g. *Capt.* 644; *Men.* 978, and see Wölflin, *Comparison*, p. 46); in the classical period in the *Bellum Africum*, 48, 3: *magis suspensiore animo*; 54, 5: *magis studiosiores*, and in the time of the Emperor Claudius in Pomponius Mela 2, 86: *magisque et magis latior*. For *maxime* with a comparative I know of no instances before very late Latin, but it ought not to surprise us in Vitruvius, because, as Wölflin has remarked (p. 47, cf. 63 ff.) in the case of the example from Lactantius

cited by Ussing, these are instances in which the comparative has lost its force and is used like a positive. No reader of Vitruvius is unfamiliar with this frequently recurring phenomenon (see e. g. Praun, p. 80). Finally I fail to see how the example *nimum penitus* (211, 7) figures among emphasized comparatives. It means 'too deep.' For *penitus* modified by another adverb, see Cic. *Clu.* 4: *tam penitus*; *V.* 2, 169: *bene penitus*; and examples of *nimum* modifying an adverb are not uncommon (cf. e. g. Cic. *Cat.* 1, 10: *nimum diu*).

Next we find: 'The superlative is repeatedly placed parallel to a positive in such a way that the difference is effaced: 53, 12: *si sit optima seu vitiosa*; 188, 12: *quae gravissimae duraeque et insuaves sunt partes*. Of course there are cases where no harm is done by such a juxtaposition, and where it may occur even in classical authors; see Wölfflin, *Comparison*, p. 54 f.; but this is not the case here.'—The selection of the two Vitruvian examples is not very fortunate, because it might be thought, particularly in the first, that the difference is not 'effaced.' He is there recommending the use of the 'best' brick, and this is contrasted with brick which is 'faulty,' though not necessarily the 'worst.' In the other example, the foregoing clause should be observed. However, what Ussing really means to criticise is the lack of symmetry shown in the coupling of a positive with a superlative, a lack of which Cicero and writers of his taste would not be guilty, and for this purpose better examples had been 24, 6: *parvo brevissimoque*; 83, 15: *dignam et utilissimam*; and others cited by Praun (p. 79). This unsymmetrical coupling is to be sure found very often in late Latin, particularly in the Africans,¹⁶ but we must not think that there is no trace of it in early or Augustan Latin. Thus we find: Plaut. *Rud.* 1321: *miserum istuc verbum et pessimum*; Ter. *Ph.* 226: *iustam facilem optumam*; Sall. *Or. Lepidi* 1: *maximi et clari estis*; Dec. Brutus ap. Cic. *Fam.* 11, 19, 2: *sediciosum et incertissimum*. And a little later, in Velleius 2, 69: *acri atque prosperrimo bello*. We have even the comparative and superlative joined in *Bell. Afr.* 56, 2: *inlustriores notissimique*, formerly emended away by Wölfflin, but allowed in his edition of 1896.

The next set of evidences which Ussing presents is as follows: 'Among the adverbs may be mentioned *aliter*, not in the sense of "otherwise," but "differently from one another"; 33, 24: *in eo hominum congressu cum profundeabantur aliter e spiritu voces*; cf. 218, 23: *itaque longe aliter distant descriptiones horologiorum locorum mutationibus*; forte =

¹⁶ See Sittl, *die lokalen Verschiedenheiten*, p. 101 ff.

fortasse: 133, 3: *Sed forte nonnulli haec levia iudicantes putant*, etc.; *parve*: 229, 14: *parve per eos flectitur delphinus*; *temperate* (with genitive as *parum*); 18, 6: *volucres minus habent terreni*, minus *umoris*, *caloris temperate*, *aëris multum*, cf. 45, 20: *umoris autem temperate*; 57, 4: *umoris temperate*; 57, 21: *terreni temperate*. — Here it must first be observed that although *aliter* is strangely used by Vitruvius in the two passages cited,¹⁷ yet since no parallel is quoted by Ussing or Praun¹⁸ from a late author, this again must be set down as a peculiarity of the style of Vitruvius¹⁹ (see above, p. 475). Of *forte* in the sense of *fortasse*, I know no occurrence in prose before or in the Augustan age. Besides 133, 3 (cited by Ussing), we find it in 116, 7: *dicet aliquis forte*. It also occurs unobjectionally with *si* in 24, 10 and 184, 22; and not in the sense of *fortasse* twice; 168, 13 and 176, 12. In two out of six occurrences Vitruvius violates the approved usage and writes like a late prose author. But it should not be forgotten that a poet of the best period used *forte* thus: cf. Hor. *Epod.* 16, 15: *forte quid expediat quaeritis*. As for 'the adverb *parve*,' no student of Vitruvius should be willing to base any statement about style on the obviously corrupt passage in which it appears in the manuscripts (see Rose's apparatus criticus, and Kaibel, *Hermes* 29, 95; Thiele, *Himmelbilder*, 55). Of the Vitruvian usage of *temperate* (in itself a perfectly good Ciceronian adverb) with the genitive, three things are to be remarked: first, that it cannot be used as evidence of late authorship, because no late author is cited as employing it; second, that it is not in meaning the equivalent of *parum*, for in 57, 4 the words *umoris temperate* are followed by *parum terreni* (cf. also 45, 20); third, that the genitive with *temperate* is

¹⁷ And in 14, 24: *cum ad usum patrum familiarum aut ad pecuniae copiam aut ad eloquentiae dignitatem aedificia aliter disponentur*. Here the best MSS. have *alte*, but the emendation (found indeed in L) is certain. Vitruvius has *aliter* elsewhere 15 times in the usual applications.

¹⁸ Or cited in the *Thesaurus*, where Vitruv. 33, 24 is not included at all, and where the peculiarity of 218, 23 is overlooked; see *Thesaurus*, s. v. *alius*, p. 1653, 52.

¹⁹ The nearest resemblance is Seneca *Q. N.* 4, praef. 22 as it is quoted in the *Thesaurus*, p. 1656, 40: *uno enim tempore (Sicilia) vidit Pompeium Lepidumque ex maximo fastigio aliter ad extrema deiectos, cum Pompeius alienum exercitum fugeret, Lepidus suum*. Editions here with MSS. cited in them have *aliter aliterque*. Some good reason for the reading in the *Thesaurus* will, I suppose, be given by Gercke who made the excerpts from this work of Seneca's for it, in his forthcoming edition of the *Q. N.* But it seems to me that, with this reading, the passage is erroneously placed in the *Thesaurus* under the caption *aliter et (-que)*. Another use of *aliter* in the sense of 'differently' is found in Pomp. Mela 1, 57: *multo aliter a ceteris agunt*.

evidently due to the influence of the other perfectly regular genitives with *minus*, *parum*, *minimum*, *multum*, which are found in the contexts of the four passages under consideration.

Still speaking of abverbs, Ussing continues: '*iuxta* = *secundum*, "according to," 10, 23: *iuxta necessitatem*. The same occurs in Justinus and later. *Trans* without an object, "on the other side," 220, 1: *circumacta trans locis patentibus ex obscuris egreditur ad lucem*, elsewhere in clerical authors, cf. *Archiv*, IV, p. 248. *Trans contra*, "opposite to," 219, 7 and 225, 13, as in Aurelius Victor and Boethius, cf. *Archiv*, V, p. 319 ff. — The context in which the strange phrase *iuxta necessitatem* occurs, is as follows: *cum . . . ratio propter amplitudinem rei permittat non iuxta necessitatem summas sed etiam mediocres scientias habere disciplinarum*. This is certainly a badly expressed sentence, and we may observe the usage of *permitto* with the infinitive as found in Livy, later historians and ecclesiastical writers, which would be stamped as vulgar did it not occur once in Cicero (*Verr.* 5, 22), and also an accumulation of plurals of abstracts such as a polished writer would have avoided. The phrase *iuxta necessitatem* occurs nowhere else to my knowledge, but the word *necessitas* is a favorite one with Vitruvius (twenty-seven times, according to Nohl's *Index*; cf. especially the phrase *ad necessitatem* in 260, 21 and 266, 3), and the use of *iuxta* in the sense of 'conformably to,' 'as the result of,' 'gemäß,' besides here, is found first not in Justinus but in Livy 39, 9, 6: *huic consuetudo iuxta vicinitatem cum Aebutio fuit* (see Schmalz, *Lat. Gramm.*,⁸ p. 263). In Vitruvius the phrase must mean 'of necessity,' 'necessarily,' but to say just what it modifies is a difficult matter.²⁰ In his observation about *trans*,

²⁰ Generally it has been taken with *summas*, but, so taken, Vitruvius would be saying that an architect need not possess 'necessarily the highest' but only a moderate knowledge of all the arts and sciences which he has mentioned in §§ 3-16. What follows, however, would seem to show that he feels that practically the architect cannot be expected to have even a moderate amount of knowledge of them all. The reading of *S*^c is perhaps therefore worth consideration, especially in view of Degering's estimate of the value of this manuscript (*Berl. Phil. Woch.* 1900, p. 9 ff.); for here we find *iuxta necessitatem* standing not before *summas* but before *mediocres*: *non summas sed etiam iuxta necessitatem mediocres*. And we may go further, for my friend Professor A. A. Howard has suggested that a second *non* appears to be lacking in the clause *sed . . . mediocres*. If Vitruvius was written in lines of from 17 to 20 letters, like Livy, perhaps here originally stood:

NONSVMMASSEDETIAM
NONIVXTANECESITATEM
MEDIocreSCIENTIAS

Then the accidental omission of the second line by the scribe of the archetype of

Ussing has certainly pointed to a misuse of that word which is not found elsewhere before the ecclesiastical writers. This preposition was originally a participle (Thielmann, *Archiv*, IV, 248), not an adverb like other prepositions, and we have no early parallel of its employment as an adverb, though we might expect to find it in the less careful writers from analogy with the adverbial use of other prepositions. In Vitruvius, *trans contra* seems to be a translation of *καταντικρύ*, especially in 219, 7, where he had in mind the pseudo-Aristotelian *de mundo*, 2, or a similar account of the *πόλοι*. It may also be observed that Vitruvius uses *intra* as an adverb half-a-dozen times (see Nohl's *Index*), a usage commonly called post-Augustan, but found in *Bell. Hisp.* 35, 2 (Köhler, *Act. Erlang.* I, p. 400); also *adversus* five times as an adverb, — found thus in prose not elsewhere before Nepos (*Thesaurus*, s. v. p. 851, 48 ff.). And we must be slow to stamp *trans contra* as a necessarily late doublet lest we meet with the fate of that 'grammaticus haud incelebri nomine' in Gellius (19, 10), who sneered at *praeterpropter* only to be confounded by learning that it had been used by Ennius, Cato, and Varro.

Next Ussing turns to prepositions, saying: 'In the use of prepositions we are struck by several peculiarities which indicate the dissolution of the language: *ab*, indicating the cause, "because of," in 58, 1: *ab pondere umoris non habent rigorem . . . ab lentitudine firmas recipiunt catenationes*; 59, 6: *ab suci vehementi amaritate ab carie aut tinea non nocetur*. *Ab*, "compared with," has been — no doubt correctly — substituted by Rose for *ad* in 142, 2: *non enim atria minora ab maioribus easdem possunt habere symmetriarum rationes*, a habit which Wölfflin in *Archiv*, VII, p. 125, has proved to exist in the ancient Latin translations of the Bible, Itala, and Vulgata, and which is analogous to the use of other prepositions such as *prae*, *super* or *supra*, *ultra*.' — These criticisms may be briefly dismissed. A glance at the *Thesaurus* s. v. *ab*, pp. 33–34, will be enough to show that the use of this preposition to denote cause is no evidence of the 'dissolution of the language' unless the language began to dissolve with Lucretius, Varro, Livy, and the Augustan poets. The other criticism, about *ab*, 'compared with,' is taken from Praun (p. 79), who, by an oversight foreign to his usually careful work, has misinterpreted the passage. There is no idea of comparison here, for *ab maioribus* does not depend upon *minora*. The sentence means: 'In the case of smaller

our manuscripts and its insertion in the margin might give rise to the differences found in HG on the one hand and S^c on the other. The restoration of this second *non* gives to the passage the meaning which Eberhard (*de Vitruvii genere dicendi*, I, p. 9) desired to find in it, though with his reading this would not be possible.

atriums the symmetrical proportions cannot be the same as in larger.' See the *Thesaurus* s. v. *ab*, pp. 39, 55.

'*Ad* is placed instead of the dative or parallel with it, as in 91, 3: *metopae quae proximae ad angulares triglyphos fiunt*; 182, 4: *hae regiones sunt proximae ad septentrionem* (equally by Euodius in Augustine *Ep.* 158, 2: *ad finem vitae proximus*); 147, 1: *lavationi rusticae ministratio non erit longe*, but soon after: *ad olearios fructus commoda erit ministratio*. Equally in 256, 16: *ita hortis ad inrigandum vel ad salinas ad temperandum praebetur aquae multitudo*; 251, 18: *ut ad solvendum non esset*, in lieu of the generally applied *solvendo*. "On the whole," Praun observes on p. 65, "the preposition *ad* with the gerund or the gerundive has extended its sphere at the expense of the other constructions, the genitive, the dative, and *in* with the ablative." — The use of *proximus* with *ad* and the accusative is found much earlier than Euodius; cf. Varro, *L. L.* 6, 8: *ad nos versum proximum est solstitium*; Lucr. 2, 135: (*ea corpora quae*) *proxima sunt ad viris principiorum*; Pliny, *N. H.* 2, 64: *ad terrae centrum humillimae atque proximae*. We have also *proprius ad* in Cicero, *Fin.* 4, 64. It must not be thought that this is the only construction with *proximus* found in Vitruvius. He has the simple dative twenty-one times, and *ad* with the accusative only three times (add 135, 11 to Ussing's examples). In his second set of examples under this head of the use of *ad*, Ussing (following Praun, p. 89) seems to think that we have two constructions with *ministratio erit*, first the dative and then *ad* and the accusative. But this latter belongs to *commoda*, and the construction is that which is found twice on the preceding page (146, 6: *ad omnes res commoda*; 146, 14: *ad usum commoda*). Though elsewhere rare, yet we have in Caes. *B. C.* 3, 100, 3: *tempore anni commodiore usus ad navigandum*, and in Ovid, *F.* 2, 288: *nec satis ad cursus commoda vestis erat*. It cannot therefore be held to be a sign of the 'dissolution of the language.' In the third set of examples (256, 16) Ussing with Praun (p. 64) seems to have taken *hortis* as a dative, and to have thought that with *praebetur* we have both a dative and an accusative with *ad*. But it seems far more probable, if not certain, that we have here two locative constructions: *hortis*, 'in gardens' (for Vitruvius's use of the locative ablative of many appellatives, see Nohl, *Anal. Vitr.*, p. 10, and observe that only eight lines below our passage he has the locative ablative *locis* with *praebendum*, 256, 24: *sin autem magis altis locis erit praebendum*), and *ad salinas*, 'at saltworks.' It is true that I do not find the locative phrase *ad salinas* in any other writer, but this is mere accident, for it is an expression which belongs in the class of other loca-

tive phrases with *ad* cited in the *Thesaurus*, p. 522 f.²¹ And Vitruvius has this use of *ad* elsewhere: e. g. *ad villas* (148, 9), *ad circum*, *ad campum*, *ad portum* (30, 12 f.). It is worth noting that by another accident *ad campum* (sc. *Martium*) seems not to occur elsewhere in literature, but that it is found in the *Monumentum Ancyranum*, 2, 40. The variation in the locative expressions, from *hortis* to *ad salinas* is Vitruvian: see e.g. the considerable variety in 30, 7–22; also in *gymnasio* . . . *foro* (174, 10); *ad villas* . . . *in urbe* (148, 9–11); *in montibus aut ad ipsos montes* (188, 18). Next Ussing's fourth example under this head, *ut ad solvendum non esset*, presents the unique *ad solvendum* instead of the common dative *solvendo* (found for instance in Cic. *Phil.* 2, 4; *Off.* 2, 79; *Att.* 13, 10, 3; *Fam.* 3, 8, 2; and in the jurists). What should be inferred from this? That our Vitruvius is a late writer? Not at all, for no late writer is cited as using *ad solvendum*. It is a peculiarity in Vitruvius and nothing more. Of the same sort is that peculiarity in Cicero's letters when he uses twice *esse ad scribendum* (*Att.* 1, 19, 9; *Fam.* 12, 29, 2) instead of the common *scribendo adesse* (for which see the *Thesaurus*, s. v. *assum*, 918, 43 ff., and Cicero himself in the second passage just cited). And a glance at the context of Vitruvius shows why he used the peculiar *ad solvendum*. It runs thus: *Sic Paeonius ducendo et reduciendo pecuniam contrivit ut ad solvendum non esset*. Obviously the usual dative *solvendo* was avoided for fear of obscurity on account of *ducendo* and *reducendo*. Finally, with Praun's general observation cited by Ussing we need not trouble ourselves here, for of course Praun never meant it to be taken as evidence of the late authorship of Vitruvius.

'*De* instead of the simple ablative in 1, 16: *parenti tuo de eo fueram notus*. Likewise *e* in 3, 22: *circini usum, e quo maxime facilius aedificiorum expediuntur descriptiones*.' — But casual *de* is in itself no proof of recent authorship, and the use of it as denoting 'den Erkenntnisgrund' is one of Dräger's categories (I, p. 630) illustrated by him with examples from Plautus and Cicero, to which may be added *Rhet. Herenn.* 4, 44 *res tota parva de parte cognoscitur*. Furthermore, in the passage cited from Vitruvius, the simple *eo* could hardly have been written without danger of obscurity on account of *parenti tuo*. The use of *e* with the ablative instead of a simple instrumental may seem lumbering and awkward in 3, 22; but that it was not unknown to the classical period is obvious from its appearance in Cicero, *Rep.* 2, 58: *ex aere alieno commota civitas* as well

²¹ Cf. also Livy's *circa Romanas salinas* 7, 19, 8; also *ad gallinas*, Plin. *N. H.* 15, 137; Suet. *Galba*, 1.

as several times in *Bell. Afr.* as cited by Köhler, *Act. Erlang.* I. p. 439. See also Pomp. Mela, 2, 21.

Passing next to conjunctions Ussing says: 'With regard to conjunctions, Dräger (II, p. 153) has already pointed out that *aut* and *sive* are used quite indiscriminately by Vitruvius. A critic in the *Athenaeum*, Jan. 1, 1898, says: "the misuse of *aut* or *sive* is no great matter." I had not expected this declaration from "a skilled reader." Most Latin scholars would have the contrary view.' — But the remark of the critic in the *Athenaeum* must not be judged apart from its context. He does not mean that the confusion of *aut* and *sive* is no great matter as a point of style, or that it would be found in a polished writer. His whole contention is that one should expect to find such errors in unpolished writers, and that consequently this error cannot be used in settling the date of Vitruvius. And this contention is borne out by the facts found in the *Thesaurus* in the treatment of the use of *aut*. Dräger, also, in the passage cited by Ussing, shows how the Elder Pliny employs *aut* and *sive* as synonyms, so that this confusion cannot be held to be evidence of very recent authorship. And for the Vitruvian employment of *aut* . . . *sive* or *sive* . . . *aut* in the same sentence, parallels are quoted from the *Aetna*, from Manilius and from Celsus in the *Thesaurus* (s. v. *aut*, p. 1571, 11 ff., and 78; cf. the somewhat similar *seu* . . . *aut* in Plautus, *Ps.* 543, cited on p. 1570, 56), with the following general remark on such combinations in prose writers, p. 1571, 55: 'increbrescent apud eos qui poetarum sermonem etiam alias imitantur et apud minus cultos (Vitr. Cels.).'

Ussing proceeds: 'Equally unclassical is the use of negatives in sentences consisting of two alternatives. The word *neve* does not occur in Vitruvius. He always puts *ne* . . . *neque* instead of *ne* . . . *neve*, as 5, 16: *ne sit cupidus neque in muneribus accipiendis habeat animum occupatum*. As for negations, it is also to be observed that he likes to place them foremost in the sentence. He says *non putavi praetermittendum* (1, 14) instead of *putavi non praetermittendum*; *non puto dubium esse* (124, 1), etc. This is done occasionally in other authors, but in Vitruvius very frequently. A striking example is 48, 22: *non enim quae sunt e molli caemento subtili facie venustatis, non eae possunt esse in vetustate non ruinosae*.' — With regard to Ussing's first point, it is sufficient to quote Schmalz, *Lat. Gramm.*,³ p. 358: 'Selten ist die Anknüpfung mit *nec* statt mit *neve*; bei Cicero wird *nec* nach *ne* nie angetroffen (vgl. C. F. W. Müller zu Cic. *Off.* 1, 91), auch nicht bei Caesar und Sall., aber bei Nepos, bei Vitruv., und Sen. Phil., welche *neve* gar nicht kennen, bei Liv., Flor., nach Liv. vereinzelt, häufig bei Dichtern, so

schon bei Plaut., bei Verg., Hor., Ov. u. a.' It is obvious that we have here what may be called a distinct division on a point of style. Though the Ciceronian must be taken to be the better, yet we see that late authorship cannot be proved from the other usage. On the second point, the setting of negatives foremost in the sentence, no evidence is presented that this was a habit of late authors. In phrases like *non putavi praetermittendum* Praun, who cites (p. 27) eleven occurrences of it in Vitruvius, holds that the attaching of the negative to *puto* is the Greek idiomatic use as in *οὐ φημι*. He might have compared *οὐκ οἶμαι*, *οὐ νομίζω*, etc.; see Kühner-Gerth, *Gr. Gramm.* II, p. 180. And W. Schmidt in *Jahresbericht Altertumsw.*, CVIII, 1901, p. 119 draws attention to Caesar *B. G.* 2, 31, 2: *qui ad hunc modum locuti: non se existimare Romanos sine ope divina bellum gerere*. But I think it probable that this position of *non* was, in the less polished speech, commoner than is usually supposed, for it appears not only in the *Bellum Africum* 59, 1: *Non arbitror esse praetermittendum quemadmodum*, etc., and 84, 1: *Non videtur esse praetermittendum de*, etc., but also there is a similar use in the eighth book of the Gallic War, by Hirtius, 48, 10: *quod ego non existimavi mihi esse faciendum, propterea quod*, etc. Finally, in Ussing's last example we have in *non enim quae . . . non eae possunt* nothing but the rhetorical figure of anadiplosis, found (to compare great things with small) in Demosthenes 9, 31: *ἀλλ' οὐχ ὑπὲρ Φιλίππου καὶ ὧν ἑκάστος πρᾶτται νῦν, οὐχ οὕτως ἔχουσιν*. And the recurrence of *non* once again in *non ruinosae* may be compared with Cic. *Fam.* 13, 18, 2: *non potest mihi non summe esse iucundum* (see also Dräger I, p. 135). Neither of these usages is any proof of late authorship.

Taking up a new topic, Ussing says: 'It is a well-known fact that in the Silver age the conjunction *num* is gradually replaced by *an*, and later on disappears entirely from the language. In Vitruvius *num* does not exist at all, neither do we find (the single) *an*, *ne*, nor *nonne*. The only particle by which he introduces a dependent interrogative clause is *si*, e. g. 53, 14: *si est firma probatur*; cf. 32, 4: *quaesiit si essent agri*; 133, 20: *quaerebant si honeste essent educati*; 156, 20: *quaesiit si quem novissent*; 183, 10: *de aqua . . . quibusque rebus si erit salubris et idonea probetur explicabo*. Only in double clauses we find *utrum* . . . *an*, as 18, 26: *dubitantes utrum morbo an pabuli vitio laesa essent*. But *si* occurs equally, cf. 53, 12: *de ipsa autem testa, si sit optima seu vitiosa ad structuram, statim nemo potest iudicare*; 173, 17: *neque animadvertunt si quid eorum fieri potest necne*. *Si* in this sense already occurs in Plautus; so we do not wonder that it is found in Vitruvius, but we won-

der that it is the only interrogative conjunction he knows, as it is the only one which has migrated into the Romance languages. Whether this *si* is due originally to an influence from the Greek language, I dare not decide.' — The examples for this paragraph are taken by Ussing from Praun (p. 74 f.), but the inferences drawn from them by these two scholars are different. Ussing holds that the almost exclusive use of *si* in indirect questions instead of other particles is evidence of late authorship; Praun, that such was 'die Richtung der Volksprache' in the classical period. This phenomenon of the almost exclusive use of *si* with which Ussing concludes his paragraph is really the only point in it that has any force, for the preceding details are unimportant. Thus, there is nothing surprising in the absence of *num* from Vitruvius, since it is not found in Catullus, Tibullus, or Pliny the Elder (Schmalz, *Lat. Gramm.*³ p. 360). On the other hand, *num* does not 'entirely disappear' from late authors, for it is found in an indirect question in Orosius 1, 19, 9. Boethius has *numne* (*Herm. Sec.* p. 46, line 12 Meiser), and Arnobius has *numquid* 46 times (Schmalz, *ibid.*). The word *nonne* in indirect questions is exclusively Ciceronian (Schmalz, p. 361). As for *-ne*, Caesar and Sallust have it only half-a-dozen times each, whereas Tacitus has it nearly thirty times, so that nothing about the date can be argued from its absence from Vitruvius. We should not be surprised at missing *an* in Vitruvius in the simple indirect question with *quaero* or other verbs meaning 'ask,' because it is not commonly found in the ante-classical or classical period except in connection with *scio* and verbs of doubting (*Thesaurus*, s. v. *an*, p. 7 ff.). What then is left of Ussing's observation? Nothing but eight examples in which *si* is said to be used in indirect questions in Vitruvius (seven quoted by Ussing, to which add 162, 17: *quaeratur solum si sit perpetuo solidum*). But a closer examination of these examples will show that half of them may be eliminated at once. I mean the two with *probari* and those with *animadvertere* and *iudicare*. In all of these except one (53, 12) we have the indicative in the clause with *si*, and none are indirect questions but all are conditional protases used instead of indirect questions (see Praun, pp. 70 and 72 on the two examples with *probari*). This leaves only the four cases with *quaero*, which certainly cannot be called into evidence for late authorship, since *quaero si* is found in the Augustan period, for instance in Propertius (2, 3, 5) and Livy (29, 25, 8; 39, 50, 7). The only truthful observation, therefore, which can be made about Vitruvius's habits in expressing indirect questions is that he seldom employs the 'sentence-question'²³ and only in the phrase *quaero si*.

²³ For other kinds of indirect questions in him, see Praun, p. 75 f.

Ussing next passes to Hellenisms: 'The most ancient Roman authors not unfrequently borrowed words from Greek to express ideas or to name objects for which their own language lacked words, but they did not borrow forms or constructions. The age of Cicero and Augustus tried to remove the Greek words and to keep the language pure, but these attempts did not entirely succeed, and in the Silver age we find repeatedly that where it became necessary to use Greek words, the authors liked to show their knowledge in retaining the Greek flexions, as *os* in the nominative instead of *us*, *u* in the genitive, etc. In the course of time such Hellenisms increased, and the great number of them which occur in Vitruvius also help to indicate the period when he lived.' — Here the confession of Ussing, that the attempts of Cicero and Augustus to remove Greek words and to keep the language pure 'did not entirely succeed' is fatal to his argument. We must remember that we are dealing with an author who stands alone in his kind. It is true that Ennius, Plautus, and Terence, when they used Greek words, generally Latinized them in form, but we know that Accius preferred to retain the Greek terminations (Varro, *L. L.* 5, 21; cf. 10, 70), and we see that Lucilius, Catullus, and Varro as well as the Augustan poets employed many Greek forms, while the number of Greek words in *Bell. Afr.*, *Bell. Hisp.*, Celsus, Pliny the Elder, and Petronius shows that we have not to wait until late Latinity for the appearance of this tendency. I need say nothing of Cicero's letters, which in spite of his own dictum in the *Tusculans* (1, 15), *scis me Graece loqui in Latino sermone non plus solere quam in Graeco Latine*, prove that 'Greek words and phrases were the *argot* of literary Rome.'²³ If Cicero uses Greek as 'part of the terminology of rhetoric and politics, not merely calling it in to supply a deficiency in the Latin language but dropping into it when he might as easily have used Latin,' we ought not to be surprised at finding Vitruvius doing the same in treating a subject on which not many Romans had written before him. When we find Greek terminations in Vitruvius, we must remember that Cicero wrote *tyrannida* in *Att.* 14, 14, 2, though *tyrannidem* in *Off.* 3, 90, and that this Greek ending is not confined to letters to Atticus but is found in *hebdomada* in *Fam.* 16, 9, 3. And in *Or.* 191 we have *paecana*, though *paecanem* stands in *D. O.* 1, 251. Neither should it be thought that Vitruvius uses only Greek terminations for Greek words. For example: Nohl's *Index to Vitruvius* gives under the letters *a*, *b*, and *c*, 973 words (excluding proper nouns

²³ Tyrrell, *Correspondence of Cicero*, I, p. 66.

and adjectives, and Greek words quoted as such, like *id aβarov vocitari iusserunt*). Of these 973 words, 101 are adopted from Greek, including of course forms of such words as *athleta*, *barbarus*, *basilica*, *camera*, *centaurus*, *chorda*, which were fully naturalized in the Latin of the classical period. Now of these 101 words it appears that 71 are used by Vitruvius with Latin terminations. Of the remaining thirty, eighteen are technical terms belonging to the vocabulary of architecture, and hence naturally Greek, such as *amphithalamos* (nom.), *baseos* (gen.), *cathetoe* (nom.). This leaves of the 101 words, only twelve untechnical terms in which Vitruvius employs Greek terminations. They are: *acroasin* (Cicero and Varro have *acroasi*), *aethera* (Cic.), *agrammatos*, *amusos*, *aniatrologetos*, *arctoe* (Cic.), *arithmeticen*, *arteriace* (Plin., Cels.), *asty*, abl. (Ter. and Nepos have *astu*), *catacecaumeniten* (Plin. has *catacecaumenitae*), *colossicotera*, *cratera*, acc. (Virg., Ov.). Therefore, of the 101 words only seven are found in Vitruvius with Greek terminations which are not similarly found in other authors, the latest of whom is Pliny, and these seven are all unusual words, all but one in fact (*acroasis*) making their appearance in Latin for the first time in Vitruvius. This examination, therefore, incomplete as it is, may probably serve to show that Hellenisms in terminations are no more common in Vitruvius than in writers of the classical period.

'He uses Greek words not only when he may possibly quote from a Greek source, but also in his own argumentations, and connected with Greek flexions, as 132, 27: *philologis et philotechnis rebus*; 247, 19: *colossicotera*; 8, 14: *aniatrologetos*. He does not even seem afraid of *-ois* instead of *-is*, as *pentadorois*, 39, 7.' — In the first of these examples we have a word not found elsewhere, *philotechnis*. It is not difficult of interpretation and seems a natural term to connect with *philologis*. To Vitruvius *philologia* means 'literature' or 'literary studies' in a wide sense (156, 7; 157, 20; 203, 14); so it did to Cicero (*Att.* 2, 17, 1). And just as to Cicero there was within *philologia* such a thing as *τεχνολογία* (*Att.* 4, 16, 3: *reliqui libri τεχνολογίαν habent*, here used of the technical discussion of statecraft in the latter portion of the *De Republica*), so to Vitruvius *philotechnicae res* are the artistic (particularly in his case the architectural) parts of literary pursuits. Thus also we find *φιλότεχνοι* (*lovers of art*) and *φιλόσοφοι* distinguished in Plato *Rep.* 476 A. The ideas, therefore, which Vitruvius expresses in this passage were not foreign to the classical period, and the word *philotechnis*, not occurring elsewhere, cannot be taken as evidence of late authorship. Neither can *colossicotera*. I am not aware that the positive of this adjective is found

elsewhere, either in Greek or Latin in any other than its literal sense as applied to a 'colossal' statue. Vitruvius has it thus in 50, 3: *statuam colossicam*, and 251, 3: *colossici Apollinis*. Yet in the more general and derived sense Vitruvius (and no late author) has it twice in the comparative degree, — in the passage cited above (247, 19) where it is used of weights too enormous to be raised by the *sucula*: *sin autem colossicotera amplitudinibus et ponderibus onera in operibus fuerint, non erit suculae committendum*; and in 81, 1 where it is applied to buildings which are, as we might say, somewhat gigantic: *opera . . . ipsa colossicotera*. Here again we must remember what has been said of Greek as the literary argot of the classical period. Cicero in his letters does not shrink from introducing Greek comparatives into Latin sentences: e. g. *Att.* 12, 45, 2: *nam ceteroqu岸 ἀνεκτότερα erant Asturæ*; *Att.* 4, 2, 7: *cetera quæ me sollicitant μυστικώτερα sunt*. Other such comparatives are πολιτικώτερα (*Att.* 14, 14, 1), φιλολογώτερα (*Att.* 13, 12, 3), ἐκτενέστερον and φιλοστοργιώτερον (*Att.* 13, 9, 1). Caesar also used them, as we see from *Cic. Q. F.* 2, 15 (16), 5: *reliqua ad quendam locum βαθυμώτερα*: *hoc enim utitur* (sc. Caesar) *verbo*. The word *aniatrologetos* (8, 14) is also a ἀπαξ (cf. *ιατρολογία* and *ιατρολογία*). It is worth observing that the whole passage is full of Greek names and words: *architectus, grammaticus, Aristarchus, agrammatos, musicus, Aristoxenus, amusus, Apelles, graphidos, plastes, Myron, Polyclitus, plasticæ, Hippocrates* — all these occur in the same section. And we may note that in our word the ending -os is due to an emendation by Giocondo, the manuscripts giving -us. Finally, of the ending -ois as found in *pentadorois*, there is no manuscript evidence that Vitruvius used it, but if he did, he was perfectly excusable since the whole passage bristles with Greek, and Pliny *N. H.* 35, 171 shows that, if he was not drawing from Vitruvius, he had the same Greek source before him. Vitruvius is describing the kinds of bricks used by the Greeks in their buildings: *ex his unum πενταδωρον, alterum τετραδωρον dicitur. δωρον autem Graeci appellant palmum quod . . . palmam. Ita quod est quoquoersus quinque palmorum pentadoron, quod est quattuor tetradoron dicitur, et quæ sunt publica opera πενταδωροis, quæ privata τετραδωροis struuntur*. I print the passage as Rose gives it. The manuscripts have only Latin letters.²⁴ For *πενταδωροis* and *τετραδωροis* they give *pentadoros* HS, *pentatoros* G; *tetradoros* GS, *tetradoro* H. If Vitruvius himself used Latin letters here, it is obvious that he may have written *pentadoris* and *tetradoris* with Latin terminations, so that in either

²⁴ This is also frequently the case in cod. M of Cicero's letters to Atticus, where our editions give Greek letters; see Tyrrell and Purser to *Att.* 2, 20, 1 and 14, 3, 2.

case nothing is left of Ussing's argument, since even Cicero does not hesitate to treat a Greek dative like a Latin ablative (cf. *Att.* 5, 21, 14: *de ἐνδομύχῳ probo idem quod tu*).

'A characteristic Hellenism is the use of the genitive corresponding to the comparative *than*, as 105, 23: *superiora inferiorum fieri contractiora*; 22, 2: *ut ne longius sit alia ab alia sagittas missionis*. This Grecism is found in Apuleius, as in *Met.* 8, 11: *statuas et imagines dignioribus meique maioribus reservare suadeo*²⁵; *De Dogm. Plat.* 1, 9: *animam . . . omnium gignentium esse seniore*. In Tertullian, *Apol.* 40: *maiorum Asiae et Africae terram*; in the Latin translations of Irenaeus and Hermes Pastor; very frequently in the oldest Latin translation of the Bible (Itala), as *I Maccab.* 6, 27: *maiora horum facient*. The Vulgate here has the regular construction: *maiora quam haec*, and mostly so, but occasionally the genitive has been retained, comp. Wölfflin, *Archiv*, VII, p. 117 ff. The above-mentioned reviewer in the *Athenaeum* says that this "slipshod Greek genitive is not avoided by Plautus and Ennius." I should have been much obliged to him for indicating the places. I thought I knew my Plautus pretty well, but I have never found it. — Here we should have the strongest evidence of late authorship which we have thus far reached if we could really feel sure that Vitruvius used the Greek construction of the genitive of comparison. That he did so, seems to have been doubted by no recent writer on the subject of this genitive, and it is defended either on the ground that he was following Greek sources (Wölfflin, *Archiv*, VII, 118; Sittl, *die lokalen Verschiedenheiten*, p. 114), or by pointing to traces of this use in even earlier writers. These traces were of course what the reviewer in the *Athenaeum* had in mind, and that he is somewhat unjustly treated by Ussing will be granted by anybody who will take the trouble to read Schmalz, *Lat. Gramm.*,³ p. 253, n. 1. Even Wölfflin in the very article cited by Ussing points to these traces in Plautus. But in Vitruvius it must be confessed that we have no longer 'traces,' and that, if we take the passages as they are usually taken, without further investigation, the real Greek genitive of comparison is found in him for the first time in Latin.²⁶ Is it, however, certain that the two passages cited by Ussing²⁷ are properly taken? The

²⁵ The reading here of *mei* depends upon the 'manus recentissima' of cod. F (Vliet, p. xlii). The manuscripts themselves have *meis*, and Vliet reads *meritis*.

²⁶ I cannot accept Varro *R. R.* 2, 5, 10, cited by Schmalz, as a certain case. See Keil's note on it.

²⁷ A third, cited by Praun (p. 79) and Wölfflin (*Archiv*, 7, 118), is not a genitive of comparison as has already been noted by Nohl (*Wochenschrift f. kl. Phil.* 3,

first of them must be seen in full before it can be studied. It runs thus: *Ergo si natura nascentium ita postulat, recte est constitutum et altitudinibus et crassitudinibus superiora inferiorum fieri contractora*. Now in an earlier sentence Vitruvius had written *uti firmiora sint inferiora superioribus* (75, 16). Here is the usual ablative of comparison. Why does he not employ it in our passage? He purposely avoids it, I think, because after *altitudinibus* and *crassitudinibus* another ablative, *inferioribus*, would be awkward and perhaps obscure. So in Sall. *H.* 2, 37: *vir gravis et nulla arte cuiquam inferior*, another ablative instead of the dative is inconceivable. But it does not follow that in Vitruvius *inferiorum* is a genitive of comparison. Every careful reader must already have seen that we are dealing with a brachylogy, and that *altitudinibus et crassitudinibus* are to be taken a second time so that *inferiorum* does not depend upon *contractiora*. In first drawing attention to this example Praun did not cite it completely but omitted the two ablatives, and in this mangled condition it has since been quoted as a case of the genitive of comparison — which it is not. There remains then only one case to be considered (22, 2), and here I do not believe that Vitruvius wrote *sagittae missionis* but rather *sagittae missione*.²⁸ Errors in writing the genitive in *-is* instead of the ablative in *-e* or *-i* are not uncommon in the manuscripts of Vitruvius especially where another genitive precedes. Thus we find *rationis* (2, 23) for *ratione*, where *sollertias* precedes in the manuscripts. We have also *solis orbis* for *solis orbi* (224, 28); *decussis* for *decussi*, where *additis* precedes (67, 13). And we also find the plural in *-es* for the ablative singular, as: *necessitates* for *necessitate* (54, 14), *partes* for *parte* (94, 29), *frontis* for *fronte* (82, 12), and *frontes* for *fronte* where *ornationis* precedes (119, 17). So it appears that there is little or no good evidence that Vitruvius used the genitive of comparison at all.

Ussing next observes: 'It has often been said that Vitruvius "translated largely from the Greek." I am not sure that he has translated more than the chapters of Athenaeus which will be mentioned below.'²⁹

p. 568. It is 231, 1: *Ad anguis inferius ventris sub caudam subiectus est centaurus*, which means 'Beneath the Snake's belly, under its tail, lies the Centaur'; cf. Aratus 447; *ὀφὴ δὲ κρέμαται ὑπὲρ αὐτοῦ κενταύροιο*. Here *ad inferius* = *ad inferiorem partem ventris*; for the use of *ad*, see the *Thesaurus*, s. v. p. 519, 23; 525, 6-36.

²⁸ As it was printed by Schneider. Perhaps, as the codd. have *sagitta emissionis*, we should keep the longer word as in 283, 18: *sagittae emissionem*, — reading it, however, in the ablative with the earliest printed editions.

²⁹ Here Ussing is referring to pages 29-41 of his article where, accepting the view of Diels that this Athenaeus Mechanicus was a post-classical writer, he argues that Vitruvius, drawing from him, must be even later, and rejects Thiel's

He seems more likely to have drawn his knowledge from Latin sources, but his style is appreciably influenced by Greek. Among these influences we will mention his preference for *non minus* (οὐδὲν ἥσσον) instead of *item*; cf. 103, 24; 187, 12; 218, 7, etc. Further, the superfluous use of *etiam* (καί) in comparisons, as 216, 4: *aequo pondere quo etiam fuerat corona*. Equally the striking omission of the demonstrative pronoun before the relative, as 30, 6: *aedibus sacris quorum deorum maxime in tutela civitas videtur esse*, and 30, 11: *Herculi in quibus civitatibus non sunt gymnasia*; and the still more striking attraction of the relative in 34, 27: *spatio relicto quanto arborum longitudines patiuntur*.² — This paragraph does not seem quite apropos of the argument, for it merely suggests Greek sources for certain usages in Vitruvius without indicating that they are found in late Latin. I am not aware that *non minus* in the sense of *item* is so found. It appears to be like *nec minus* as used in Varro *R. R.* 1, 13, 3; 3, 1, 6; Propertius 1, 3, 5.³⁰ The 'superfluous *etiam* (καί)' calls for no further comment here; and for the substantive standing in the relative clause without a demonstrative in the main clause, as well as for the attraction of the relative, see Schmalz's *Lat. Gramm.*,³ pp. 372 and 373. These usages are not evidence of late authorship.

Neither is there such evidence in the following paragraph: 'In the Syntax of Vitruvius, one of the things that attract our attention is his way of expressing measures. He often uses the regular construction with the accusative, as *latitudine maior quam pedes xx*; but he equally employs the genitive, a construction which also appears in more ancient authors, as Varro ap. Pliny *N. H.* 36, 92: *pyramides . . . imae latae pedum quinum septuagenum, altas centenum quinquagenum*; Columella 2, 10, 26: *arens latae pedum denum, longas pedum quinquagenum facito*;

theory of a common source for both in Agesistratus (whom, however, Rose² has indicated for Vitruvius, 275, 16). How unsuccessful Ussing is in this argument has been shown by Schmidt (*Bursian's Jahresbericht*, 108, 1901, p. 120). In another part of Ussing's book (p. 28) there is a very just observation which he would have done well to bear in mind throughout: 'As if it were possible to write about the very same things without occasionally using the same words; or as if there must not necessarily be found a similarity in those who proceeded from the same school, and had drawn their knowledge from the same book.' A principle of common sense which 'source-hunters' often ignore!

³⁰ *Non minus* in this sense is found more than thirty times in Vitruvius; besides he has *non minus etiam* nine times (cf. *nec non etiam*, Varro *R. R.* 1, 1, 6; 2, 10, 9; 3, 16, 26; and Schmalz, *Lat. Gramm.*³ p. 351, on such pleonasm in uncultivated style).

Plin. *N. H.* 18, 140; 36, 7. Thus Vitruvius 77, 9: *uti lata et longa sit columnae crassitudinis unius et dimidia*; cf. 77, 18; 100, 24; 94, 14; 205, 20; 207, 25, etc. But instead of this *genitivus qualitatis* Vitruvius also uses the ablative; cf. 39, 1: *longum sesquipede, latum pede*; 94, 28: *crassitudines extenuentur his rationibus uti si octava parte erunt quae sunt in fronte, hae fiant x parte*. — To these examples of the ablative may be added³¹ 170, 1: *alte circiter pedibus tribus*; 99, 24: *altae dimidia parte*; 99, 26: *altam suae crassitudinis dimidia parte*. But they cannot be taken as evidence of very late authorship, for Columella has this ablative in 5, 9, 3: *digitis quatuor alte*; *Arb.* 1, 6: *tribus pedibus alte*; and both the genitive and ablative in 3, 13, 5: *quidam dupondio et dodrante altum sulcum, latum pedum quinque faciunt*.

Coming next to locative constructions, Ussing says: 'A similar wavering is found in the local determinations. Country names are put in the ablative without prepositions, as 43, 27: *Achaia Asia*; 134, 14: *aliter Aegypto, aliter Hispania, non eodem modo Ponto*; 182, 3: *Ponto et Gallia*; 176, 15 ff., frequently. Even the genitive appears, 59, 3: *Cretae et Africae*. Names of towns in the ablative instead of the genitive, 49, 8: *Arretio*; 101, 22: *Sunio*; 195, 19: *Zacyntho*. This harmonizes with the use of *eo* instead of *ibi*, 120, 16: *eo tragici et comici actores in scaena peragunt*; 284, 11: *arboribus excisis eoque conlocatis*. (If the same is found in Cicero's *Ep. ad Brutum* 1, 2, 1, it may as well be considered as a testimony against the genuineness of these epistles). — A full collection of Vitruvius's use of country names in the ablative without a preposition has been published by Nohl in his *Analecta Vitruviana*, p. 9. From this it appears that 21 names are thus used.³² This is a large number, but the usage itself cannot be accepted as proof of late authorship because we find in Virgil *Ponto* (*Ecl.* 8, 95 f.), *Latio* (*A.* 1, 265; 6, 67), *Lycia* (*A.* 12, 344), *Italia* (*A.* 1, 263), and in Pliny *Hispania* (*N. H.* 8, 226), and *Aegypto* (13, 56; 18, 123; 19, 79).³³ For the rest, Vitruvius uses also the regular construction of *in* with the ab-

³¹ It is the more necessary to present these additional cases because the two which Ussing cites are not very convincing. The second lacks any adjective like *longus, latus, or altus*, and is therefore an ordinary genitive of quality; the first is easily emended away, as *pede* in 278, 7, is now emended to *pedem*, and as in Plin. 35, 171 *longum sesquipedem* is now read instead of the older reading *sesquipede* of the inferior manuscripts.

³² For *Lucania*, however (198, 9), *Lucanis* of the manuscripts should be retained; see my note in *Harvard Studies in Classical Philology*, 17, p. 6.

³³ Cf. Funaioli, *Archiv*, 13, 327 ff.

lative in the case of 25 country names, some being the same as those which he has used without the preposition. When Ussing remarks 'Even the genitive appears,' he must mean the 'locative' for there would be nothing surprising in the employment of a true genitive construction. I do not believe that the true locative of any country name is found in Vitruvius, since I think that all the forms which seem to be such may be explained on other grounds, just as the apparent locatives of country names in Pliny have been explained away.³⁴ Only six cases call for consideration. Of these *Asiae* (190, 14) and *Phrygiae* (196, 14) are chorographic genitives (see Schmalz, *Lat. Gr.*,³ 224 f.), such as are found in Caesar, Livy, and Pliny. In 195, 15 *Aethiopiae* is now read *Aethiopia*, but, if the manuscript reading is kept, we have a genitive depending on *lacus*. In 198, 8 *Boeotiae* (a genitive) has been emended to *Boeotia* on account of the following ablatives. In the example cited by Ussing, *Cretae et Africae* (59, 3), one of two explanations may be given. Although the name *Cretae* is generally treated like that of a country and consequently appears in Cicero with *in* and the ablative, yet as an island it is used in the locative by Varro (*R. R.* 1, 7, 6) and Virgil (*A.* 3, 162). If Vitruvius used it thus, then the following *Africae* is an assimilation for concinnity, like Sallust's *Romae Numidiaequae* (*J.* 33, 4). But both *Cretae* and *Africae* may be genitives depending on *regionibus*, for the whole sentence reads: *nascuntur autem eae arbores maxime Cretae et Africae et nonnullis Syriae regionibus*. There remains only 200, 24: *sunt autem etiam fontes uti vino mixti, quemadmodum est unus Paphlagoniae, ex quo*, etc. Here *Paphlagoniae* is to be taken as a genitive. But even if locatives of country names were actually found in Vitruvius, we could parallel them from the classical period, since we have *Peloponnesi* in Varro (*R. R.* 2, 6, 2), *Oheronesi* in Nepos (1, 2, 4), and *Galliae* in Hirtius (*B. G.* 8, 1, 2).³⁵ As for names of towns in the ablative instead of the locative, Nohl's treatment (*Analecta*, p. 10) is not exact, for he does not distinguish between towns and islands. The names of towns actually thus used by Vitruvius are *Arretio*, *Chio* (283, 3 where the word *murum* shows that the town is meant), *Halicarnasso*, *Lyncesto*, *Paraetonio*, *Sunio*, *Tarso*, *Teo*, *Teano*, — that is, nine in all.³⁶ It is true that this misuse becomes common in late Latin (*Archiv*, XIII, 315 f.), but still we

³⁴ Funaioli, *Archiv*, 13, 581 f.

³⁵ Here I think that *Galliae* must certainly be taken as a locative on account of *rebus gestis Alexandriae* just below. Still, see *Archiv*, 13, 331.

³⁶ For the passages, see Nohl. On the other hand Vitruvius has the locative of stems in -o six times, and always in stems in -a-.

find occurrences of it early enough to show that in Vitruvius the phenomenon is due to his lack of finish and that it cannot be taken as evidence of late authorship. Thus, Cato has *Venafro* (*R. R.* 135, 1), and Varro has *Amiterno* (*L. L.* 6, 5). On the whole, with regard to these three categories we must treat them as errors of style, just as Pliny's frequent use of *in* with the ablative of a town name (*Archiv.* XIII, 337) is treated. Nobody thinks of stigmatizing the Natural History as a piece of late workmanship because of them, particularly in view of the practice of the Emperor Augustus, who used prepositions with names of towns in order to avoid obscurity (*Suet. Aug.* 86). We come next to Ussing's remark about the use of *eo*. Here it is not necessary to try to defend Vitruvius by means of the disputed passage in Cicero, *Ep. ad Brutum*, nor even to refer to the undisputed erroneous use of *eo* in Celsus 8, 9, 1: *ibi pus proximum erit eoque uri debet*. It is enough to show that Vitruvius's use is correct. This has been done for 120, 16 by Rose in a footnote in his second edition, where he refers to *perago* used twice with *ad* and the accusative on a later page. In 284, 11 *eo* is due to the meaning of *conlocatis* which here does not mean simply 'to place' but rather 'to bring together'; consequently *eo* is properly used, as with *ad* and the accusative in Plaut. *Men.* 986: *in tabernam vasa et servos conlocavi*, a construction found also in Vitruvius himself, 272, 9: *in eos cuneoli ferrei . . . conlocantur*. Of course Vitruvius has also the other use of *conloco*, with *in* and the ablative, or with *ibi* or *ubi*, examples of which may readily be found in Nohl's *Index*. With these two uses with *conloco* may be compared the same two with *coacervo*; for instance, *Bell. Afr.* 91, 2: *eo coacervatis*, and *Cic. R. A.* 133: *coacervari una in domo*. As for the proper meaning of *eo* ('thither,' not 'there') Vitruvius is perfectly aware of it and so employs it in seven other passages.³⁷

Passing now to other topics Ussing says: '*Noceri* is constructed personally in the passive voice, 45, 22: *neque ab ignis vehementia nocentur*; 59, 7: *larix ab carie aut tineæ non nocetur*. Similarly Apuleius, *de Dogmate Platonis*, 2, 17.' — These two examples are not sufficient evidence of late authorship, for Vitruvius always uses this verb properly in the active voice (six times absolutely and eight times with the dative³⁸ case), and also has it once impersonally in the passive (59, 14). The

³⁷ He has *eo loci* also twice correctly. If he has it twice besides in the sense of *ibi* (233, 17; 235, 14), so have Cicero (*Sest.* 68) and Pliny (*N. H.* 11, 136).

³⁸ If the work were late we might expect to find the accusative; see Kühner, *Lat. Gr.* 2, p. 76, 5. *fin.*

two examples are rather to be treated among those violations of regular usage which crop out here and there even in the best writers. It is true that I know of no similar certain case of *noceri* before Ulpiā, *Dig.* 43, 19, 3, 2; for Sen. *Ira*, 3, 5, 4, cited by Neue (*Formenlehre* III, 5), is not a personal use, and Nepos, 7, 4, 2, is open to doubt. But for examples of other verbs which take the dative in the active voice and which occur occasionally in the personal use in the passive, cf. *crederetur*, Cic. *R. A.* 103 and *credor* used thus by Ovid, *Tr.* 3, 10, 35, and *M.* 7, 98; *obstrepi*, Cic. *Marc.* 9; *antecelluntur*, *Rhet. Herenn.* 2, 48; *invideo*, Hor. *A. P.* 56; *imperor*, Hor. *Ep.* 1, 5, 21; and the numerous instances of the passive participle of *persuadeo*, Wölflin, *Rhein. Mus.* XXXVII, 115 f.

'*Est causa cognoscere*, 59, 17, instead of *cognoscendi* is a construction now and then occurring in the poets; cf. Madvig, *Lat. Gr.* § 419. It has been noticed that the genitive of the gerund is very rare in Vitruvius, whereas the ablative is exceedingly frequent; cf. Praun, p. 57 ff. It is, as we know, the ablative form which passes into the Romance languages Italian and Spanish.' — There is nothing in *est causa cognoscere* that points to late authorship, for nothing like it is cited in any other author, late or early. The peculiarity of it does not consist in the construction used with the word *causa*, for the infinitive with this word occurs in poets (Verg. *A.* 10, 90; Tib. 3, 2, 30; Lucan, 5, 464), and for the general principle involved see Schmalz, *Lat. Gramm.*³ p. 293. The peculiarity lies in the meaning of the word *causa*, for, as Praun has remarked (p. 20), *est causa* here is equivalent to *operas pretium*, and no parallel for this, early or late, is cited. It must therefore be considered as a peculiarity of the author.³⁹ With regard to the rest of Ussing's paragraph, two observations should be made. First, that the rare use of the genitive of the gerund in Vitruvius (only five occurrences, Praun, p. 57 f.) is partly due to the fact that he never uses it with an adjective or with *causā* or *gratiā* (Praun, *ibid.*). But with adjectives this construction is very rare in old Latin, not common in the classical writers, and of slow growth before Tacitus, who greatly developed it (Lane, *Lat. Gramm.* § 2258; Schmalz,³ p. 304). See also Praun's remarks (p. 65) on the use of the gerund or gerundive construction with *ad*, instead of in the genitive, as found in writings of less formal and polished style. Secondly, regarding the prevalence of the ablative construction in Vitruvius, this is the commonest of all the gerund and gerundive constructions

³⁹ Rose² emends to *causam*.

at all periods. Praun (p. 59) cites Valerius Maximus as a special lover of it, so that we need not come down to late Latin to find it. Even the modal use, which is such a favorite with Vitruvius, is found, once in Cicero, and examples occur in Caelius, Sallust, and the *Bellum Hispanicense*, until finally Ovid and Livy made it common (Schmalz,² p. 305).

Next there follows in Ussing a long paragraph which I do not think it worth while to reproduce here. It deals with the undoubted fact that in Vitruvius the mood employed in indirect questions is very apt to be the indicative.⁴⁰ After referring to this usage in Plautus, Ussing says: 'No classical prose writer would indulge in putting the indicative in a dependent clause which really expresses a reflection or a doubt.' He does not say that late writers do so, but of course it is well known that such is the fact (for instance, see the literature cited in Sittl, *Die lokalen Verschiedenheiten*, p. 134), and his argument therefore is that this phenomenon in Vitruvius is evidence of late authorship. In this paragraph Ussing says nothing about the appearance, here and there, of this indicative in several prose writers who not only belong to the 'classical period' but who are also so strict in their standards of style that they are entitled themselves to be called 'classica.' That is, Ussing adopts the attitude of those earlier generations of scholars who, from the time of Lambinus down to near the present day, did not scruple to emend away all offences against the strict norm of classical style. Such is not the attitude of most scholars now; individualities in writers are recognized, and departures from the strict norm are often welcomed, rather than rejected, as indications either that the literary language had not yet attained to exactness in following rules or that the writer in question is employing the phraseology of colloquial speech, which then, as always, was less careful than the literary style. In this spirit we ought to consider the appearance of the indicative in indirect questions in Vitruvius. The best general statement with regard to this employment of the mood has been made by Schmalz (*Lat. Gramm.*,² p. 359). The usage crops out in the *Rhetor ad Herennium*, in Varro, in Cicero's early writings and in his letters, and in letters to him. It is avoided by the historians though not by the poets of the Augustan age, and it is found in Petronius and Pliny the Elder. The closest parallels to the indicative in clauses expressing 'a reflection or a doubt' as in Vitruvius, are to be found in the seven examples cited by Marx from the *Rhetor ad Herennium* in his edition of that book, p. 176 f.

⁴⁰ The fullest collections are to be found in Praun, p. 71 ff., and Richardson, *Harvard Studies in Cl. Phil.* 1, p. 157.

In Ussing's next paragraph there is but one sentence that calls for attention: 'It is certainly unclassical to employ the subjunctive in an indefinite relative clause, as 158, 5: *quorum utrum ei acciderit, merenti digna constitit poena*.' — While the subjunctive in this use probably does not occur in the classical period, yet it is found not infrequently in the Elder Pliny (Froben, *Quaestiones Plinianae*, p. 33), so that, if it were found in Vitruvius, the phenomenon would be no proof of late authorship. But in fact, I do not believe that *acciderit* is a subjunctive. The truth probably is that *constitit* comes not from *consto* (as Nohl takes it in his *Inaex*), but from *consisto*, the perfect of which is not infrequently used in a present sense. For this use, see the grammars of Kühner (II, p. 95) and Lane (§ 1607), and for numerous examples, Munro's note to Lucretius 1, 420, where he cites Cicero's letters, the two Senecas, Vergil, Ovid, and Horace. This present meaning of *constitit* makes *acciderit* allowable as a future perfect. Of course, however, the really remarkable thing in the sentence is the employment of *utrum* where there is a choice of more than two things (see the context). For this use I know of no parallel, early or late.

Ussing's last observation is as follows. 'Finally we shall briefly mention the position of the words. We have already noticed the inclination to put the negation foremost in the sentence. Similarly the auxiliaries, *esse*, *posse*, and *velle*, etc., are preferably placed before the infinitive to which they belong, as 10, 10: *ut possint . . . disciplinas penitus habere notas*; 91, 5: *qui metopas aequales volunt facere*. In sum, the governing verb is very often put before its object, whether a word or a whole sentence.' — And he begins his summary, which immediately follows, with this sentence: 'These features and many others point to the decadence of the Latin language and to its transition to the Romance tongues.' — As for this argument, I am not aware that sufficient collections have ever been made regarding the position of the auxiliary verbs to warrant the use of it in fixing the date of a literary work. This was the reason why Sittl published nothing on the order of words in his treatise on the African writers, where he says: 'Die Beobachtung der Wortstellung ergibt ebenfalls viel interessantes, aber da hier über die nichtafrikanische Literatur fast keine Beobachtungen vorliegen, wage ich es vorläufig noch nicht, unseren Provinzialen etwas zu vindizieren' (*Die lokalen Verschiedenheiten*, p. 135). If now we examine the case of *volo* in Vitruvius, we find him placing it 22 times before the infinitive and 6 times after the infinitive. But the *Rhetor ad Herennium* has it 42 times before and 18 times after (see Marx's Index); in the *Bellum Africanum*

the use is equally divided, seven of each (Wölfflin's Index); so in Varro's *Menippeans*, four of each (Riese's Index), while in his *Res Rusticae* it stands first 22 times and after the infinitive 33 times. With regard to *possum*, Lupus has observed that in Nepos the infinitive very often follows it and other verbs (*Der Sprachgebrauch des Nepos*, p. 191). In Vitruvius, the verb *possum* is used with the infinitive 300 times (Nohl's Index). But in exactly half of these, there is a negative attached to *possum*, and it is this expression of *impossibility* which Vitruvius prefers to place before the infinitive. He has 126 instances of it thus placed and in only 24 does it follow the infinitive. Of the other 150 cases where there is no negative with *possum*, the infinitive precedes 76 times and follows 74 times. In view of such varieties, I do not see how the position of these auxiliaries can be used in discussing the date of Vitruvius until their position in other authors has been carefully studied.

Thus the linguistic and stylistic phenomena noted by Ussing have been examined, and in summarizing them it appears that there are only a very few which cannot be paralleled either exactly or in principle during the Republican, Augustan, or Silver ages of Roman literature. These few are: the *impersonal* use of *dignum est ut* (p. 475), *necessitate* as an adverb (p. 475), *forte* meaning 'perhaps' (p. 481), and *trans* as an adverb (p. 482). And something has been said in explanation of all these except the last. The many heads of Ussing's indictment are therefore reduced to the minimum. But what if it be argued that, although instances of the several phenomena may be found in various authors of the earlier time, yet since they are not all found in any one author except Vitruvius, this accumulation of them in him points to late authorship? The answer to this cumulative argument is that it begs the whole question. For, as I have pointed out above (p. 468), no other technical treatise written in the better age is extant, and therefore we are not entitled to say that such treatises did not abound in examples of the phenomena which appear in Vitruvius. As for the resemblances between the language of Vitruvius and that of the Romance nations, Krohn⁴¹ has already observed that these are *a priori* only natural. Latin was not transmitted to Romance lands by the polished works of Cicero, but by the every day writings and the colloquial speech of people like Vitruvius, — professional men, *publicani*, business men, and soldiers. The resemblances, therefore, are not necessarily evidence of late authorship. In conclusion, I may add that it

⁴¹ *Berl. Phil. Woch.*, 1897, p. 774.

seems improbable that anybody who thinks that Vitruvius is like the late Latin authors, can have actually read him through with much care. They, whatever their faults of grammar and style, are smooth and easy reading by comparison with him. He has all the marks of one unused to composition, to whom writing is a painful task. A forgery or a late compilation of an earlier work would presumably proceed from a hand used to literary performances.

